

**WHAT IS CLAIMED IS:**

1           1.       A connect and disconnect assembly for connecting and disconnecting a laser diode  
2       having at least one lead to a printed circuit board, comprising:

3                   a heatsink having a base plate portion and a plurality of fins extending from and integral  
4       with the base plate portion, said heatsink being connected to the printed circuit board, and the laser  
5       diode being connectable to said heatsink; and

6                   at least one laser support block interposed between said heatsink and the printed circuit  
7       board, wherein a portion of a connection force connecting said heatsink to the printed circuit board is  
8       transferred through said at least one laser support block to couple the at least one lead of the laser diode  
9       with at least one pad of the printed circuit board.

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1           2.       A connect and disconnect assembly as recited in claim 1, wherein said at least one  
2       laser support block connects to said heatsink.

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1           3.       A connect and disconnect assembly as recited in claim 1, wherein a gasket is provided  
2       on said at least one laser support block to aid in the transfer of the connection force applied to the at  
3       least one lead, and to electrically isolate the at least one lead.

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1           4.       A connect and disconnect assembly as recited in claim 1, wherein the gasket  
2       comprises a dielectric material.

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1           5.       A connect and disconnect assembly as recited in claim 1, wherein the gasket  
2       comprises a magnetic radar absorbing material.

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1           6.       A connect and disconnect assembly as recited in claim 1, wherein the laser diode has  
2 a plurality of leads.

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1           7.       A connect and disconnect assembly as recited in claim 1, wherein said heatsink  
2 comprises a material selected from the group consisting of aluminum, aluminum alloy, copper,  
3 copper alloy, and a combination of aluminum and copper.

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1           8.       A connect and disconnect assembly as recited in claim 1, wherein said heatsink  
2 further includes a plurality of spacer sleeves that ensure said heatsink connects to the printed circuit  
3 board at a height wherein the at least one lead of the laser diode contacts the at least one pad of the  
4 printed circuit board.

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1           9.       A connect and disconnect assembly as recited in claim 8, wherein the heights of the  
2 spacer sleeves is greater than or equal to the height of the laser diode.

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1           10.      A connect and disconnect assembly as recited in claim 8, wherein screws are provided  
2 through said heatsink and corresponding spacer sleeves, and engage corresponding mount holes formed  
3 in the printed circuit board.

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1           11.      A connect and disconnect assembly as recited in claim 1, wherein one laser support  
2 block is provided on opposite sides of the laser diode.

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1           12.     A connect and disconnect assembly as recited in claim 11, wherein each laser support  
2     block includes a body portion having a shoulder provided therein, and the body portion of each laser  
3     support block, except where the shoulder is located, includes a gasket.

1           13.     A connect and disconnect assembly as recited in claim 11, wherein each laser support  
2     block connects to said heatsink by providing two mount screws through said heatsink and into each  
3     laser support block.

1           14.     A connect and disconnect assembly as recited in claim 1, wherein the base plate  
2     portion of said heatsink is rectangular

1           15.     A connect and disconnect assembly as recited in claim 1, wherein the base plate  
2     portion of said heatsink has a shape selected from the group consisting of circular, trapezoidal, and  
3     square.

1           16.     A method of connecting an assembly to a printed circuit board, the assembly  
2     including a heatsink having a base plate portion and a plurality of fins extending from and integral with  
3     the base plate portion, a laser diode having at least one lead, and at least one laser support block,  
4     comprising:

5                     connecting the laser diode to the heatsink;

6                     interposing the at least one laser support block between the heatsink and the printed  
7     circuit board; and

8                     connecting the heatsink to the printed circuit board, wherein a portion of a connection

9 force connecting the heatsink to the printed circuit board is transferred through the at least one laser  
10 support block to couple the at least one lead of the laser diode with at least one pad of the printed circuit  
11 board.

12  
1 17. A method of connecting an assembly to a printed circuit board as recited in claim 16,  
2 wherein the at least one laser support block connects to the heatsink.

3  
1 18. A method of connecting an assembly to a printed circuit board as recited in claim 16,  
2 wherein the assembly is temporarily connected to the printed circuit board.

3  
4 19. A method of connecting an assembly to a printed circuit board as recited in claim 16,  
5 further comprising:

6 connecting a fiber optic cable to the laser diode;  
7 converting an electrical signal provided by the at least one lead into an optical signal  
8 in the laser diode; and  
9 providing the optical signal to the fiber optic cable.